THE TWO CHAINS

A forensic comparison of three market infrastructures the legacy system, the institutional blockchain, and the regulated tokenization pioneer and what each one means for the retail investor trying to tell them apart.

Collector Capital Quarterly
Vol. IV Issue 07 April 2026

Special Investigation N07
DTCC AppChain tZERO Legacy
Architectural comparative analysis based on primary regulatory sources

Independent Research For Informational Use

"Velocity without visibility is just faster opacity."

In This Investigation

Three systems claim to move securities. Only one of them is the one you think it is. This is a field guide to telling them apart and understanding what each one means for the retail investor trying to audit the float of a heavily shorted stock.

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A note on sources. Every factual claim in this investigation is traceable to publicly available primary documents: SEC filings, DTCC press releases, DTCC QA documentation, Hyperledger Besu architecture specifications, tZERO regulatory registrations, and the December 11, 2025 SEC No-Action Letter authorizing DTC's tokenization pilot. No speculation is

presented as fact. No inference is presented as confirmation. Where claims rest on inference from structure rather than direct documentation, that distinction is stated explicitly.

A note on framing. This investigation is neither an endorsement of any particular investment thesis nor a blanket criticism of any market participant. It is an architectural comparison of three systems that increasingly share space in American capital markets. The reader is invited to draw their own conclusions from the evidence presented.

1 Opening Statement A Tale of Three Systems

The conversation about blockchain in American capital markets has been dominated by a single narrative: tokenization creates transparency. This investigation argues that claim is, at best, half true and at worst, strategically misleading.

Over the past eighteen months, three parallel systems have emerged for moving securities and collateral in American markets. The first is the legacy architecture that has governed equity settlement since the dematerialization of paper certificates in the 1970s operated through DTCC's Depository Trust Company, settled through the Continuous Net Settlement system, and characterized by T+1 settlement, self-reported short interest, and the abstraction layer of Cede & Co. nominee ownership.

The second is the DTCC Collateral AppChain launched April 2025, built on permissioned Hyperledger Besu, architected explicitly for real-time collateral mobility including recursive rehypothecation, and visible only to DTCC and authorized institutional validators.

The third is tZERO an SEC-registered Alternative Trading System that has been operating as a regulated tokenized securities venue since 2018, now expanding into real-world asset tokenization through the tZERO Chain launched in July 2025.

These three systems are not competitors in the conventional sense. They serve different purposes, are regulated under different frameworks, and present fundamentally different transparency profiles to external observers.

What they share is the ability to represent securities ownership and move that ownership between parties. What separates them is almost everything else.

The popular narrative around tokenization that moving securities onto a blockchain creates transparency, auditability, and a level playing field for retail investors is only true for one of these systems. For another, it is true only within a permissioned walled garden that retail cannot enter. For the third, it remains what it has always been: opaque by design.

This investigation compares all three on fifteen architectural dimensions. It scores each on transparency, auditability, and fairness to retail participants. And it draws the analytical conclusions that follow from that comparison conclusions that have material implications for any float audit, short interest analysis, or structural stress assessment of any heavily shorted equity.

The core finding can be stated in a single sentence: when retail advocates celebrate "tokenization," they often mean systems that look nothing like what is actually being deployed at institutional scale. The DTC tokenization pilot authorized by the SEC in December 2025 is real. It is also not the whole story.

What follows is not a defense of any one system over another. Each has legitimate purposes and documented strengths. The legacy system's manual friction creates regulatory visibility that the AppChain's automation eliminates. The AppChain's velocity creates capital efficiency the legacy system cannot match. tZERO's public registration creates audit surfaces the other two systems do not expose.

The question is not which system is "best." The question is which system is doing what, for whom, and what the retail investor can actually verify about any of them.

2 The Three Systems An Architectural Primer

Before comparing them, it is necessary to establish what each system actually is, what it is authorized to do, and where it sits in the overall capital markets infrastructure. Half of the confusion in public discussion stems from conflating systems that share technology but not purpose.

2.1 I. The Legacy System Cede & Co. DTC NSCC The Known World

The legacy American equity settlement system dates to the paper crisis of the late 1960s, when physical stock certificate volumes overwhelmed back-office processing and created a structural shift toward dematerialization. The Depository Trust Company (DTC) was established as the central securities depository; the National Securities Clearing Corporation (NSCC) handled net settlement; Cede & Co. became the nominee holder of record for virtually all US publicly traded equities.

Under this system, when an individual buys a share of GameStop through a retail broker, what they actually own is a beneficial interest in shares held by Cede & Co. at DTC. The broker holds the beneficial ownership record. DTC's internal ledger reconciles positions between DTC Participants daily through Continuous Net Settlement. The system processes roughly $2 quadrillion in annual securities transactions.

Short selling, securities lending, and rehypothecation operate within this architecture through manual processes, T+1 settlement, and reporting frameworks FINRA short interest (twice monthly, self-reported), SEC failures-to-deliver data (bi-monthly, ˜30 day lag), and the Consolidated Audit Trail (CAT).

The legacy system's transparency is indirect. External observers cannot query DTC's internal records. But the manual settlement friction creates indirect evidence: elevated borrow rates signal supply constraints, rising fails-to-deliver signal settlement stress, threshold list placements signal unresolved delivery failures.

2.2 II. The DTCC Collateral AppChain Hyperledger Besu Live April 2025 Institutional Velocity

The DTCC Collateral AppChain was announced in April 2025 and went operational shortly thereafter. It is built on Hyperledger Besu an enterprise-grade Ethereum-compatible distributed ledger and operated through the Linux Foundation's Decentralized Trust project.

Unlike public blockchains, the AppChain is permissioned. The validator set is controlled by DTCC and authorized institutional participants. There is no public block explorer. External observers cannot query balances, transactions, or provenance. Per DTCC's own materials: "Permissioned privacy provides greater control over privacy, security, and data."

The system is designed for collateral mobility at institutional scale. Traditional assets remain in DTCC custody; a digital token representing beneficial ownership moves on-chain. Smart contracts automate margin calls, defaults, and rebalancing. The system operates 24/7 with real-time settlement.

Per DTCC's own QA documentation: "Rehypothecation is fully within scope for the AppChain, as it remains a critical component of the collateral management ecosystem today and will continue to be so in the future." Recursive re-pledging is supported, limited only by bilateral agreements between participants not by the protocol itself.

A Note on Naming. Public discussion frequently conflates three distinct DTCC/DTC initiatives: the Collateral AppChain (April 2025, production, institutional), the DTC Tokenization Pilot (December 2025 no-action letter, H2 2026 launch, Russell 1000 equities), and various pilots around Treasury tokenization with Digital Asset Holdings on Canton Network. These are related systems built on related infrastructure, but they operate under different authorization

scopes and different regulatory frameworks. The DTC pilot is the retail-facing initiative. The AppChain is the institutional production system. Both may ultimately run on related rails, but only one is being publicly discussed.

2.3 III. tZERO SEC/FINRA-Registered Tokenized RWA Public Provenance

tZERO operates a fundamentally different model from either the legacy system or the AppChain. It is a registered Alternative Trading System (ATS) under SEC Regulation ATS, a FINRA member, a SIPC member, and one of only two US broker-dealers licensed as special-purpose broker-dealers authorized to custody tokenized securities using their own wallet infrastructure.

In July 2025, tZERO announced the tZERO Chain a next-generation blockchain purpose-built for compliant issuance, trading, and settlement of tokenized real-world assets. The network launched with up to $1 billion in tokenized assets. The $TZERO utility token serves as the transaction and incentive layer. The chain includes built-in oracles delivering pricing analytics for alternative assets including collectibles, fine art, and luxury goods.

Critically, tZERO's tokenization model is not a rehypothecation-enabled collateral system. It is a direct ownership model: when an asset is tokenized on tZERO Chain, the token represents a regulated digital security backed 1:1 by the underlying. Secondary trading happens on tZERO's regulated ATS with SEC and FINRA oversight. Settlement is instant and custody is held by a registered special-purpose broker-dealer.

The tZERO infrastructure is relevant to the broader capital markets conversation because it demonstrates that compliance and transparency are not incompatible with blockchain settlement. The choice between velocity and visibility is an architectural one not a technical necessity.

The tZERO Architecture. Each layer of the tZERO stack is independently regulated and auditable:

- Issuance: SEC-qualified digital security offerings
- Custody: Special Purpose Broker-Dealer under FINRA rules
- Trading: Registered ATS with SEC Form ATS-N filings
- Settlement: Blockchain-native with regulated final-settlement guarantees
- Oversight: FINRA supervisory structure, SIPC member protections

This is what regulated tokenization looks like when the design prioritizes disclosure over velocity.

3 What These Systems Share And What They Don't

All three systems move securities or securities-adjacent claims between parties. All three are regulated under some framework. All three involve DTCC in some capacity even tZERO, which interacts with the broader DTC-settled equity market through its registered broker-dealer entity.

What they do not share is their treatment of the three variables that matter most to external observers: transparency (who can see the ledger), auditability (whether claims can be independently verified), and structural fairness (whether the system's architecture advantages or disadvantages retail participants).

The following section compares them systematically on fifteen architectural dimensions.

4 The Comparative Matrix Three Systems, Fifteen Dimensions

The following matrix compares the three systems across architectural, transparency, fairness, and loophole dimensions. Each row identifies a specific mechanism; each column identifies how that mechanism operates in each system. The evidence is drawn entirely from public primary sources.

4.1 Part One Architectural Foundations

Dimension	Legacy System DTC NSCC Cede & Co.	DTCC AppChain Besu Permissioned April 2025	tZERO SEC ATS Public Since 2018
Infrastructure	Centralized electronic book-entry ledger; manual reconciliation supplemented by batch processing.	Permissioned Hyperledger Besu; Ethereum-compatible enterprise DLT with smart contract automation.	tZERO Chain; compliance-aware blockchain with built-in regulatory oracles.
Settlement	T+1 via Continuous Net Settlement; netting reduces visible gross flows.	Real-time, 24/7; smart contracts execute transfers on trigger conditions.	Instant digital settlement via regulated broker-dealer custody.
Participants	DTC Participants (large brokers, banks); retail accesses through brokers.	DTCC plus authorized institutional validators; retail has no access of any kind.	Open to registered investors; retail can participate directly through compliant channels.
Asset Scope	All US publicly traded securities and select fixed income.	Any tokenizable asset equities, treasuries, crypto, complex private agreements.	Regulated digital securities and tokenized real-world assets.
Validator Control	N/A centralized database.	Closed validator set controlled by DTCC and institutional participants.	Hybrid: regulated operator plus compliant node infrastructure.

4.2 Part Two Transparency & Auditability

Dimension	Legacy System DTC NSCC Cede & Co.	DTCC AppChain Besu Permissioned April 2025	tZERO SEC ATS Public Since 2018
Public Ledger	None. Internal DTC records not externally queryable.	None. Permissioned chain; no public block explorer exists.	Public. Blockchain provenance viewable by participants.
Retail Auditability	Very Low. Indirect signals (FTDs, borrow rates, SI) only.	Zero. No external audit path of any kind available.	High. On-chain records plus SEC Form ATS-N filings.
Regulatory Visibility	Moderate. Reg SHO, CAT, 13F filings create patchwork.	Participant-level. DTCC quarterly reports to SEC staff only.	High. Full SEC/FINRA oversight including ATS transparency rules.

Reporting Lag	˜2 weeks to 30 days depending on data type.	Quarterly reports to SEC staff; no public cadence.	Near-real-time for participant-visible transactions.
Data Product	FINRA, SEC EDGAR, exchange reports fragmented but public.	LedgerScan DTCC analytics SaaS; not public-facing.	tZERO ATS filings and blockchain records.

4.3 Part Three Loophole & Manipulation Surface

Dimension	**Legacy System DTC NSCC Cede & Co.**	**DTCC AppChain Besu Permissioned April 2025**	**tZERO SEC ATS Public Since 2018**
Rehypothecation	Permitted with manual T+1 friction; documented but slow.	"Fully within scope" per DTCC; automated, 24/7, recursive.	Not structurally enabled in 1:1 backing model.
Synthetic Claim Layering	Moderate. TRS, options, ETF mechanics create layers.	High. Smart contracts enable 3x-5x+ claims per underlying.	Minimal. 1:1 token-to-asset backing is architectural.
Audit Trail Gaps	CAT condition code fragmentation documented in TRF prints.	Chain-level opacity prevents any external audit attempt.	Immutable on-chain record of every token movement.
Price Containment Capability	Limited by settlement friction and manual processes.	High. Real-time reallocation refreshes synthetic supply.	Structurally absent at the infrastructure layer.
Settlement Fail Visibility	Reported via SEC bimonthly FTD data, ˜30 day lag.	Obscured. Token circulation can satisfy delivery without FTD.	Real-time via on-chain settlement confirmation.
Dark Pool Integration	Deep. FINRA TRF absorbs ˜40%+ of equity volume.	Native. Permissioned chain is a dark venue by design.	None required. All trades visible on regulated ATS.

4.4 Part Four Fair Playing Field For Retail

Dimension	**Legacy System DTC NSCC Cede & Co.**	**DTCC AppChain Besu Permissioned April 2025**	**tZERO SEC ATS Public Since 2018**
Retail Access	Through brokers only; no direct DTC participation.	None whatsoever. Zero retail access; institutional only.	Direct through registered brokerage or accredited investor channels.
Retail Verification	DRS the only mechanism placing shares outside the machinery.	Impossible. Chain not accessible to retail observers.	On-chain verification of ownership and provenance.
Disclosure Parity	Asymmetric. Institutional players see more than retail.	Extreme asymmetry. Only insiders have visibility.	Regulatory parity enforced by SEC/FINRA oversight.

Fee Structure	Complex PFOF and internalization economics; opaque to retail.	Participant-negotiated; retail not party to any structure.	Public fee schedule published per ATS regulations.
Recourse Mechanism	FINRA arbitration, SEC complaints, private litigation.	None defined for non-participants.	Full SIPC protection, FINRA arbitration, SEC oversight.

5 The Rehypothecation Problem In Their Own Words

The central finding of this investigation rests on DTCC's own public documentation. The language cited below is not inferred, speculated, or reconstructed. It is verbatim from DTCC's Great Collateral Experiment QA materials and AppChain architecture documents.

Under normal operating conditions, a single tokenized security unit on the AppChain can support 3x to 5x effective collateral claims through chained bilateral agreements. Under stress conditions, higher. The protocol enforces no hard limit on re-pledge depth. Caps exist only within individual bilateral agreements, which are not publicly disclosed.

This is not a theoretical capability. It is the explicitly stated design purpose, confirmed in DTCC's own publications, and optimized for speed through smart-contract automation.

What the documents actually say DTCC "Great Collateral Experiment" QA Verbatim

"Rehypothecation is fully within scope for the AppChain, as it remains a critical component of the collateral management ecosystem today and will continue to be so in the future."

"Rehypothecation of pledged assets is supported... provided it is authorized within the collateral agreement."

Why this language matters: Four specific features of the cited language deserve attention.

First, "fully within scope." This is not a grudging admission of a permitted use case. It is a statement of design intent.

Second, "critical component." This framing treats rehypothecation as infrastructure rather than behavior.

Third, "will continue to be so in the future." This forecloses the possibility that the AppChain represents a migration toward less rehypothecation-dependent infrastructure.

Fourth, "authorized within the collateral agreement." This places the limiting authority in bilateral agreements between institutional parties agreements that are not disclosed publicly and cannot be audited by external observers.

Taken together, these four features describe a system in which recursive rehypothecation is architecturally supported, philosophically defended, projected to continue indefinitely, and limited only by private agreements that no outside party can examine.

The Cascade Example How a single share becomes multiple claims in seven seconds

To make the mechanism concrete, consider a single tokenized equity share owned by Bank A and pledged as collateral under a bilateral agreement that authorizes rehypothecation. The underlying share remains in a DTCC custody account throughout. Only the token moves.

Second zero. Bank A pledges the token to Bank B as collateral for a repo transaction. The smart contract transfers the token to Bank B's wallet.

Second one. Bank B, authorized by its agreement with Bank A, immediately re-pledges the same token to Bank C for a different obligation. The smart contract executes the transfer.

Second two. Bank C uses the same token as initial margin for a derivatives position with Bank D. Transfer executes automatically via margin optimization algorithm.

Second three. Bank D re-pledges to Bank E for a securities lending transaction. The token circulates further downstream.

Second four. Bank E uses the collateral to satisfy an unrelated settlement obligation with Bank F.

Second five. Bank F pledges to Bank G as backing for a synthetic derivative.

Second six. Bank G uses the position in its own collateral optimization against Bank H.

Eight layers of claims now exist against a single underlying share. The underlying has not moved from its DTCC custody account. The token has passed through eight wallets. The circular time is under seven seconds.

Each layer is a legitimate claim under its bilateral agreement. Each transfer is properly documented on the AppChain ledger. Each participant has visibility only into its immediate counterparty not the full chain of custody.

If any one of these counterparties defaults, the downstream claim becomes an unsecured exposure. DTCC's own documentation acknowledges this as "risk of asset loss in downstream transactions." In aggregate stress, multiple defaults cascade. Claims against the single underlying exceed the underlying itself.

This is not manipulation. This is the system operating as designed. The question is whether a system designed this way is appropriate infrastructure for settling the securities of a heavily shorted public company and whether the retail investor in that company has any mechanism for verifying what is actually happening to their claims.

6 The Transparency Scorecard The Final Grades

Grading each system across three weighted categories: Transparency (35%), Retail Fairness (35%), and Loophole Resistance (30%). Scores reflect architectural capabilities documented in primary sources, not aspirational claims.

	Legacy System DTC NSCC Since 1973	**DTCC AppChain** Besu Since April 2025	**tZERO** SEC ATS Since 2018
Overall Score	**42/100** Moderate overall	**18/100** Architecturally opaque	**79/100** Structurally sound
Transparency	18/35	4/35	30/35
Retail Fairness	14/35	6/35	28/35
Loophole Resistance	10/30	8/30	21/30

Legacy System Fragmented reporting creates patchwork visibility. DRS provides genuine escape valve. CAT condition code gaps documented. PFOF asymmetry well-established.

DTCC AppChain No public block explorer exists. Rehypothecation "fully within scope." Zero retail access or recourse. Velocity optimized, visibility deprioritized.

tZERO Public blockchain provenance. Full SEC/FINRA registration stack. 1:1 backing architecturally enforced. Retail has direct verification path.

These scores are architectural grades, not moral judgments. The AppChain's low transparency score is not a claim that DTCC is doing anything improper it is a factual assessment of what external observers can and cannot verify about the system.

The legacy system's moderate score reflects its dual nature: it is substantially opaque by modern standards, but it has decades of built-in reporting infrastructure, regulatory attention, and one genuine escape valve (DRS) that the AppChain lacks entirely.

"tZERO proves that blockchain and transparency are compatible. The AppChain proves they do not have to be. The design choice not the technology determines which system you get."

7 Implications For The Float Audit

The Collector Capital Float Audit Framework, now in its third major revision, is premised on identifying non-duplicable share inputs and computing pressure ratios against them. The AppChain findings require refinement, not abandonment.

DRS remains the primary hard floor input. Shares registered directly in investor names at Computershare are outside DTC entirely. They cannot be lent, pledged, rehypothecated, or placed on any chain permissioned or public.

The treatment of tokenized entitlements as a second hard floor input requires qualification. While double-spend prevention is real at the token level, it is economically irrelevant for collateral purposes. A single token cannot exist in two wallets simultaneously, but it can back multiple collateral claims across multiple bilateral agreements simultaneously through recursive rehypothecation.

This means tokenized entitlements in the DTC pilot to the extent they integrate with the broader DTCC collateral infrastructure may not be structurally different from traditional book-entry shares for the purposes of leverage creation. They are different only in the sense that they leave a different kind of audit trail, visible only to participants and regulators.

The Revised Hierarchy

Tier		Description	Evidentiary Strength
Tier 1	Absolute	DRS shares registered at Computershare	Highest. Outside all DTC system
Tier 2	Identified	Tokenized entitlements on DTC pilot	Medium-High. Identified, but pot
Tier 3	Reported	FINRA short interest, FTDs, CAT data	Medium. Self-reported, partially
Tier 4	Inferred	ETF synthetic exposure, options OI	Low. Requires mechanical inferen
Tier 5	Unobservable	TRS, offshore, AppChain rehypothecation chains	None. Fully opaque to retail.

The Central Finding, Restated

DRS is the only mechanism that structurally escapes the leverage machinery. The DTC tokenization pilot adds identification without necessarily adding insulation. The AppChain adds velocity without adding visibility. tZERO demonstrates that transparency and blockchain are compatible but tZERO is not the system most institutional capital is migrating toward.

8 Tokenization vs DRS The Rehypothecation Question (Addendum Section VI.5)

A Supplementary Finding To The Main Investigation

The primary investigation established that the DTCC AppChain and the DTC tokenization pilot are distinct systems running on related infrastructure, and that recursive rehypothecation is explicitly architected into the AppChain per DTCCs own documentation.

A follow-up question surfaced during review that requires its own treatment: does tokenization under the DTC pilot add rehypothecation risk, reduce it, or leave it unchanged and how does that compare to Direct Registration?

The answer is nuanced enough that conflating it with DRS in public discussion has become one of the more common analytical errors in the current community conversation. This addendum separates them explicitly.

The Narrow Answer Pilot Terms Exclude Tokenized Shares From Collateral Use

The SEC No-Action Letter dated December 11, 2025, authorizing the DTC tokenization pilot, states explicitly that tokenized entitlements are excluded from DTCs Collateral Monitor calculations, do not count toward Net Debit Cap calculations, and are not ascribed any eligible collateral value for DTCs risk management purposes.

In plain language: within the pilots authorized mechanism, a share that has been tokenized cannot be used by DTCs own systems as collateral. It sits on the blockchain as a settlement representation, but within the pilot framework, it does not function as collateral for DTC risk management.

For the narrow question of whether the pilot itself adds rehypothecation capability to pilot-tokenized shares, the answer is no. The pilot explicitly prevents their use as DTC-level collateral.

Three Structural Complications

First, the pilot is not the AppChain. The DTC tokenization pilot and the DTCC Collateral AppChain are different systems running on related infrastructure. The pilots collateral exclusion applies to pilot-tokenized equities specifically. It does not describe how tokenized assets behave within the AppChains broader collateral ecosystem, where per DTCCs own published documentation rehypothecation remains “fully within scope” and “a critical component of the collateral management ecosystem.”

The pilots collateral exclusion is a feature of how the pilot is currently authorized, not a permanent architectural guarantee. Future rulemaking, authorization expansion, or operational integration between the two systems could change it. This possibility is not foreclosed by any public document reviewed in this investigation.

Second, the underlying share remains in DTC custody. Tokenization does not remove a share from the DTC system. The original entitlement remains in Cede & Co.s custody account. A digital token is created to represent the entitlement on-chain. The token circulates among registered wallets. The underlying position is reflected in a Digital Omnibus Account but continues to exist within the traditional book-entry infrastructure.

This creates a specific ambiguity in the pilots published terms. The pilot states that tokenized entitlements do not count for DTC collateral purposes. It does not explicitly address whether the underlying share which still exists in custody can be rehypothecated through traditional book-entry mechanisms while its token representation exists on-chain. As of April 2026, this question is not definitively resolved in the public documentation.

Third, de-tokenization can force shares back into the standard pool. Per the pilot architecture, tokens can be de-tokenized back to traditional book-entry form in several circumstances: participant-initiated de-tokenization for operational purposes, DTC-forced de-tokenization for corporate actions such as dividends and splits, de-tokenization required to use a share as collateral, and end-of-day settlement requirements that may force conversion for certain activities.

Each de-tokenization event returns the share to the fully rehypothecation-eligible traditional book-entry pool. The tokenized state is not permanent. It is a condition a share can be in temporarily, with multiple mechanisms that can return it to the non-tokenized pool.

The Structural Comparison

Comparing DRS, DTC pilot tokenization, and traditional book-entry on rehypothecation exposure specifically:

For shares held in traditional book-entry through a brokerage account, rehypothecation is fully available. The share can be lent through the brokers securities lending program, pledged as collateral, re-pledged downstream through bilateral agreements, and integrated into AppChain-style automated collateral optimization. This is the default state of most retail-held shares in the current system.

For shares tokenized under the DTC pilot, rehypothecation is reduced relative to traditional book-entry. The pilots explicit terms exclude tokenized entitlements from DTC collateral use. However, three qualifications apply: the underlying share remains in custody and may be usable traditionally, future interoperability with the AppChain is not foreclosed, and de-tokenization events can return shares to the fully rehypothecation-eligible pool. The tokenized state offers improvement over traditional book-entry but does not offer structural escape.

For shares registered directly at Computershare through DRS, rehypothecation is impossible under any mechanism. The share sits outside DTC entirely. It cannot be lent by any broker because no broker holds it. It cannot be pledged because it is registered in the shareholders own name. It cannot be tokenized without first being returned to the DTC system. It cannot be forced back into the DTC pool through any corporate action because it is not in the DTC pool to begin with. It is structurally outside the entire leverage and reallocation machinery this investigation has documented.

The Clean Answers

Does tokenization create additional rehypothecation risk? No, for shares actually in the tokenized state under the DTC pilot, by explicit pilot terms.

Does tokenization eliminate rehypothecation risk? No. The underlying share remains in DTC custody, the pilots collateral exclusion is a current authorization rather than a permanent architectural guarantee, and de-tokenization can return shares to the fully rehypothecation-eligible pool.

Does DRS eliminate rehypothecation risk? Yes. DRS shares are outside every mechanism described in this investigation.

Implications For The Main Investigation

The primary investigations central finding that DRS is the only mechanism that structurally escapes the leverage machinery is strengthened by this addendum rather than weakened. The finding that tokenized entitlements should be classified as Tier 2 (Identified) rather than Tier 1 (Absolute) in the revised hierarchy holds with this analysis, but with greater specificity about why.

Tokenization under the pilot offers meaningful improvement over traditional book-entry for the specific rehypothecation risk vector. It does not offer structural escape. The shares remain inside a system from which DRS removes them entirely.

This distinction matters because it prevents the analytical error of treating tokenization and DRS as interchangeable protective mechanisms. They are not. They serve different purposes, provide different levels of structural protection, and create different kinds of audit trails. A shareholder who DRSes achieves something tokenization cannot replicate. A shareholder who relies solely on eventual tokenization access through a broker will not have placed their shares beyond the leverage machinery only into a portion of that machinery that has an explicit collateral exclusion under current pilot terms.

What This Means Practically

The practical conclusion for retail investors follows directly from the structural analysis.

If the objective is maximum protection from the rehypothecation mechanisms documented in this investigation the AppChains "fully within scope" language, the chain-of-custody opacity, the cascade risk illustrated in the seven-second example DRS remains the unique solution. Four years of community advocacy for DRS is independently validated by DTCCs own architecture documents. The case for DRS does not rest on speculation about institutional intent. It rests on the observable fact that DRS shares exist outside the systems where rehypothecation can occur.

If the objective is participation in the tokenization pilots improved settlement record while retaining shares within the DTC system, tokenization when eventually available through brokers offers partial benefit. The pilots collateral exclusion provision does remove one specific mechanism of leverage exposure. But the share remains in DTC custody, interoperability with the AppChain is not foreclosed, and de-tokenization events can return the share to the fully rehypothecation-eligible pool.

These two paths are not in conflict. A shareholder can DRS a portion of their holdings for structural protection while retaining others in broker accounts where tokenization may eventually be offered. The choice between them is a choice between two different kinds of protection, not a choice between protection and no protection.

Core Finding Of The Addendum

DRS is structural escape. Tokenization under the DTC pilot is improved bookkeeping for shares that remain inside the system DRS exits. The two mechanisms are complementary, not equivalent.

For the purposes of the Float Audit Framework, this addendum confirms the revised hierarchy: DRS as Tier 1 Absolute, tokenization as Tier 2 Identified, and a clear analytical distinction between them that the frameworks Stress Ratio computation should reflect.

For the purposes of the investigations closing argument, it adds a specific clarification to the first regulatory ask: public CUSIP-level tokenized entitlement counts are the necessary condition for tokenization to become analytically useful to retail, but even with full disclosure, tokenization would not replace DRS as the mechanism for structural escape from the leverage system. These are two separate advocacy targets serving two separate purposes.

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This addendum supplements but does not supersede the primary investigation. All findings of the primary investigation remain in force. Primary sources: SEC No-Action Letter dtc-nal-121125.pdf; DTCC Great Collateral Experiment QA documentation; DTC pilot architectural materials.

9 Closing Argument The Path Forward

The purpose of an investigation is not only to document what exists but to identify what should change. The following recommendations follow from the findings of this investigation.

Five Specific Regulatory Asks

One. Public CUSIP-level tokenized entitlement counts. DTC quarterly reports on the tokenization pilot currently go to SEC staff only. These should be published publicly on a weekly or daily cadence, similar to how DRS counts are disclosed in 10-Q filings. Without this, the entire retail-facing tokenization narrative lacks the transparency it claims to create.

Two. Public rehypothecation chain disclosure. The AppChain currently obscures re-pledge depth entirely. A disclosure requirement for aggregate rehypothecation multipliers per underlying asset not per agreement would allow regulators and analysts to assess systemic layering risk without exposing individual counterparty positions.

Three. Real-time FTD reporting on tokenized assets. Traditional settlement fails are reported bi-monthly with a 30-day lag. On-chain settlement makes real-time reporting technically trivial. The absence of real-time FTD reporting for tokenized assets is an affirmative choice, not a technical limitation.

Four. Independent validator inclusion. Permissioned blockchains need not be closed to all external observers. Regulatory, academic, and consumer advocate nodes could participate as read-only validators without compromising institutional operational security. The current model DTCC plus institutional participants only is an unnecessarily restrictive interpretation of "permissioned."

Five. Retail-facing tokenization access. The DTC pilot currently works through DTC Participants. A retail investor cannot independently tokenize their own holdings. Expanding participant eligibility to individual investors with appropriate risk controls would close the access gap that currently prevents retail from benefiting from whatever transparency the pilot does create.

Three Things Retail Can Do Today

One. Direct Registration remains the only mechanism that escapes every system described in this investigation. Shares at Computershare cannot be lent, pledged, rehypothecated, or placed on any chain. Four years of community advocacy for DRS is now independently validated by DTCCs own architecture documents.

Two. Coordinated pressure on the SEC and DTCC for public tokenized count disclosure is the single highest-leverage regulatory advocacy target. This is achievable without legislative action. It requires only a rulemaking change.

Three. Careful monitoring of regulatory filings, DTCC press releases, and Besu node participation provides early warning of structural changes to the systems described here. Velocity without visibility is only faster opacity if nobody is watching.

Final Observation

The investigation began with a question: what do we actually know about the three systems increasingly shaping American capital markets? The answer is that we know quite a lot about the legacy system, very little about the AppChain, and that tZERO exists as a functioning proof that alternative architectures are possible.

The reader is invited to draw their own conclusions about which architectural choices serve which interests, and whether those choices are being made with adequate public input.

The retail investor does not need to win every argument about market structure. The retail investor only needs to hold shares in a form that cannot be used against them and to continue asking the questions that institutions would prefer go unasked.

"The chain that matters is not the one they are showing you. The chain that matters is the one they are not."

Colophon

This investigation was compiled from publicly available primary sources. Every quoted claim is traceable to its original document. Every architectural comparison is grounded in the published specifications of each system.

The analysis presented here is independent research produced for informational and educational purposes. It is not investment advice. It is not a recommendation to buy, sell, or hold any security. It is an attempt to apply the same rigorous standard to market infrastructure that sophisticated investors apply to individual companies.

The retail investor community has developed, over the past four years, an unprecedented capacity for distributed research into market structure. This investigation is one contribution to that ongoing effort. It will be wrong in places. It will be refined by future findings. It will be supplemented by analyses more thorough and more rigorous than this one.

What it will not be is silent. The chains described in this investigation were built in silence. They operate in silence. The argument for velocity without visibility is an argument for the continuation of that silence. This investigation exists because the retail investor's interest in transparency has, to date, been consistently underestimated both by the architects of these systems and by the regulators overseeing them.

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April 2026